

Serial No. 10/043,312
Docket No. F-11890

AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A method for revising wiring of a circuit to prevent electro-migration, said method comprising:
 - for each net in said circuit, identifying each branch point in said net;
 - calculating a current density at each said branch point of said net;
 - determining whether or not said current density exceeds a limit value; and
 - automatically revising a wiring which affects said current density in order to reduce said current density if said current density exceeds said limit value.
2. (Original) The method as set forth in claim 1, wherein said limit value is determined to prevent said electro-migration.
3. (Previously presented) The method as set forth in claim 1, wherein said limit value depends on a drive ability of a device which drives said net.
4. (Previously presented) The method as set forth in claim 1, wherein said limit value depends on a resistance of an interval of said net, said interval ending at said branch.
5. (Previously presented) The method as set forth in claim 1, wherein the revising said wiring comprises reducing a resistance of an interval of said net, said interval ending at said branch.
6. (Previously presented) The method as set forth in claim 5, wherein the reducing the

Serial No. 10/043,312
Docket No. F-11890

resistance of said interval comprises widening a conductor in said interval.

7. (Previously presented) The method as set forth in claim 1, further comprising:

tracing said net to obtain said branch.

8. (Currently amended) An apparatus for revising wiring of a circuit to prevent electro-migration, said apparatus comprising:

means for identifying, in each net of said circuit, all branch points in said net and calculating a current density at each said branch point of said net;

means for determining whether or not said current density exceeds a limit value;

and

means for automatically revising a wiring which affects said current density in order to reduce said current density if said current density exceeds said limit value.

9. (Original) The apparatus as set forth in claim 8, wherein said limit value is determined to prevent said electro-migration.

10. (Previously presented) The apparatus as set forth in claim 8, wherein said limit value depends on a drive ability of a device which drives said net.

11. (Previously presented) The apparatus as set forth in claim 8, wherein said limit value depends on a resistance of an interval of said net, said interval ending at said branch.

Serial No. 10/043,312
Docket No. F-11890

12. (Previously presented) The apparatus as set forth in claim 8, wherein the means for revising said wiring comprises means for reducing a resistance of an interval of said net, said interval ending at said branch.

13. (Previously presented) The apparatus as set forth in claim 12, wherein the means for reducing the resistance of said interval comprises means for widening a conductor in said interval.

14. (Previously presented) The apparatus as set forth in claim 8, further comprising:
means for tracing said net to obtain said branch.

15. (Currently amended) A computer program product embodied on a computer-readable medium and comprising codes that, when executed, cause a computer to:
for each net in said circuit, identify each branch point in said net;
calculate a current density at each said branch point of said net;
determine whether or not said current density exceeds a limit value; and
automatically revise a wiring which affects said current density in order to reduce said current density if said current density exceeds said limit value.

16. (Original) The computer program product as set forth in claim 15, wherein said limit value is determined to prevent said electro-migration.

17. (Previously presented) The computer program product as set forth in claim 15, wherein said limit value depends on a drive ability of a device which drives said net.

Serial No. 10/043,312
Docket No. F-11890

18. (Previously presented) The computer program product as set forth in claim 15, wherein said limit value depends on a resistance of an interval of said net, said interval ending at said branch.

19. (Previously presented) The computer program product as set forth in claim 15, wherein the revising said wiring comprises reducing a resistance of an interval of said net, said interval ending at said branch.

20. (Previously presented) The computer program product as set forth in claim 19, wherein the reducing the resistance of said interval comprises widening a conductor in said interval.

21. (Previously presented) The computer program product as set forth in claim 15, wherein said codes further cause the computer to perform a tracing of said net to obtain said branch.